

1       Claims

3           1.       A seat track assembly comprising:

4                   an upper track comprised of an elongated inverted channel member having a pair  
5                   of downwardly extending side walls and a top wall connecting said side walls;

6                   a lower track comprised of an elongated channel member having upwardly  
7                   extending side walls and a bottom wall connecting said side walls, said upper track received  
8                   between said side walls of said lower track;

9                   an elongated threaded spindle mounted to said lower track bottom wall extending  
10                  along and between said side walls of said upper and lower tracks;

11                  a gear nut threaded on said spindle, said gear nut rotatably carried in a gear case,  
12                  said gear nut and said gear case driving said upper track upon rotation of said gear nut on said  
13                  spindle by a bracket capturing said gear case and affixed to said top wall of said upper track, said  
14                  bracket having a pair of legs spaced apart in the lengthwise direction of said upper track and  
15                  connected together by a connecting portion, said gear case disposed between said bracket legs to  
16                  be captured therein; and

17                  said bracket and at least one of said side walls of said upper track having interfit  
18                  portions configured to resist relative lengthwise movement therebetween, thereby enhancing the  
19                  ability of said bracket to withstand forces imposed thereon by said gear nut and gear casing.

21           2.       The assembly according to claim 1 wherein said bracket legs are each

22           attached to said upper track top wall at an upper end thereof, and wherein said interfit portions

1 include at least one protrusion on said bracket connecting portion located at the bottom of said  
2 bracket and a complementary recess in at least one of said side walls of said upper track receiving  
3 said protrusion to be interfit therewith.

4

5                   3.       The assembly according to claim 2 wherein said upper track side walls  
6 have a bottom edge and said recess is formed therein.

7

8                   4.       The assembly according to claim 1 wherein said interfit portions are  
9 configured to be mated together when said upper track is placed over said bracket.

10

11                  5.       The assembly according to claim 1 wherein said interfit portions comprise  
12 a protrusion projecting laterally from each side of said bracket connecting portion and a recess in  
13 each side wall of said upper track receiving a respective protrusion.

14

15                  6.       The assembly according to claim 5 wherein each upper track has a rolled  
16 bottom edge and each recess extends horizontally into a respective rolled bottom edge to receive  
17 a respective protrusion as said upper track is placed over said bracket.

18

19                  7.       The assembly according to claim 2 wherein said at least one protrusion  
20 comprises at least one tab integral with said connecting portion of said bracket and a  
21 complementary notch at the bottom of at least one of said side walls of said upper track, said tab  
22 fit into said notch.

1                   8.       The assembly according to claim 5 wherein each of said protrusions  
2       comprises a tab projecting from a respective side of said connecting portion of said bracket, and  
3       wherein each side wall of said upper track has a notch receiving a respective tab therein.

4

5                   9.       The assembly according to claim 1 wherein said spindle has an integral  
6       flattened end attached to said connecting bottom wall of said lower track by one or more  
7       fasteners passing therethrough.

8

9                   10.      The assembly according to claim 9 wherein said flattened end of said  
10      spindle is offset to align a longitudinal axis of said spindle spaced above said bottom wall of said  
11      lower track.

12

13                  11.      A seat track assembly comprising:  
14                  an upper track comprised of an elongated inverted channel member having a pair  
15       of downwardly extending side walls and a top wall connecting said side walls;  
16                  a lower track comprised of an elongated channel member having upwardly  
17       extending side walls and a bottom wall connecting said side walls, said upper track received  
18       between said side walls of said lower track;  
19                  an elongated threaded spindle mounted to said lower track bottom wall extending  
20       along and between said side walls;  
21                  a gear nut threaded onto said spindle, said gear nut rotatably carried in a gear case,  
22       said gear nut and said gear case driving said upper track lengthwise upon rotation of said gear nut

1 on said spindle by a bracket having a pair of legs spaced apart in the lengthwise direction of said  
2 upper track straddling said gear case, said legs connected together at a lower end of each leg by a  
3 connecting portion; and

4                   said spindle having a flattened end attached to said bottom wall of said lower  
5 track by one or more fasteners passing through said flattened end and said bottom wall.

6

7                   12.       The assembly according to claim 11 wherein said integral flattened end of  
8 said spindle is offset from a longitudinal axis of said spindle to locate said spindle spaced above  
9 said bottom wall of the lower track.

10

11                   13.       A method of making a seat track assembly of the type including an upper  
12 track comprised of an elongated inverted channel member having a pair of downwardly  
13 extending side walls and a top wall connecting said side walls;

14                   a lower track comprised of an elongated channel member having upwardly  
15 extending side walls and a bottom wall connecting said side walls, said upper track received  
16 between said side walls of said lower track;

17                   an elongated threaded spindle mounted to said lower track bottom wall extending  
18 along and between said side walls;

19                   a gear nut threaded on said spindle, said gear nut rotatably carried in a gear case,  
20 said gear nut and gear case driving said upper track lengthwise upon rotation of said gear nut on  
21 said spindle by a bracket having a pair of legs spaced apart in the lengthwise direction of said  
22 upper track, said bracket legs connected together by a connecting portion, said gear case disposed

1       between said bracket legs, and said bracket affixed to said top wall of said upper track, and

2                   including the steps of:

3                   forming said upper track side walls and said bracket with respective

4       complementary features and interfitting said features upon installation of said upper track onto

5       said bracket so as to restrain movement of said bracket relative said upper track side walls,

6       thereby enhancing the ability of said bracket to withstand lengthwise directed forces imposed by

7       said gear nut and gear case.

9                   14.       The method according to claim 13 wherein said step of forming interfit

10       portions include the step of forming at least one projecting tab on said bracket connecting portion

11       and a complementary recess in an upper track side wall.

13                   15.       The method according to claim 13 wherein said step of forming interfit

14       portions comprises the step of forming a tab on each side of said bracket connecting portion

15       projecting towards a respective side wall of said upper channel; and, forming a recess in the

16       bottom of each side wall thereof located and configured to receive and be interfit to a respective

17       tab when said upper track is installed over said bracket.

19                   16.       A method of making a seat track assembly of the type including an upper

20       track comprised of an elongated inverted channel member having a pair of downwardly

21       extending side walls and a top wall connecting said side walls;

22                   a lower track comprised of an elongated channel member having upwardly

1 extending side walls and a bottom wall connecting said side walls, said upper track received  
2 between said side walls of said lower track;  
3 an elongated threaded spindle mounted to said lower track bottom wall extending  
4 along and between said side walls;  
5 a gear nut threaded onto said spindle, said gear nut rotatably carried in a gear case,  
6 said gear nut and said gear case driving said upper track lengthwise upon rotation of said gear nut  
7 on said spindle by a bracket having a pair of legs spaced apart in the direction of a longitudinal  
8 axis of said spindle, said bracket legs connected together at lower ends thereof by a connecting  
9 portion, said gear case disposed between said legs, said bracket affixed to said top wall of said  
10 upper track; and  
11 said method including the step of anchoring said spindle to said lower track by the  
12 steps of flattening one end of said spindle, and directly attaching said flattened end to said bottom  
13 wall of said lower track.  
14  
15 17. The method according to claim 16 wherein said step of attaching said  
16 flattened end of said spindle to said bottom wall includes the step of passing one or more  
17 fasteners through said bottom wall of said lower track and said flattened end of said spindle.  
18  
19 18. The method according to claim 16 further including the step of forming  
20 said flattened end to be offset from said spindle to thereby space said spindle above said bottom  
21 wall of said lower track.  
22

1                   19.     A method of manufacturing a seat track assembly including the steps of:  
2                   mounting a threaded spindle to extend along and within a channel shaped lower  
3                   track;

4                   forming a channel shaped upper track with a pair of side walls having a recess  
5                   extending into a bottom edge of said side walls;

6                   installing a gear nut onto said spindle threads;

7                   enclosing said nut in a gear case having openings allowing said spindle to pass  
8                   through said gear case while confining said gear nut therein;

9                   forming a bracket having a pair of legs which straddle said gear case to capture  
10                  the same while having openings allowing said spindle to pass therethrough, with said legs  
11                  connected together at one end with a connecting portion;

12                  forming said bracket and said upper track side walls with portions interfit with  
13                  each other upon placing said upper track over said bracket and gear case; and

14                  fastening said bracket to said upper track top wall by installing fasteners through  
15                  said upper track top wall and said bracket.

16  
17                  20.     The method according to claim 19 wherein said bracket is installed with  
18                  said connecting portion at the bottom thereof and free ends of said legs at the top and wherein  
19                  said free ends are formed with flanges which are fastened to said upper track top wall in said  
20                  fastening step.

21  
22                  21.     The method according to claim 20 wherein a pair of oppositely projecting

1 tabs are formed in said bracket connecting portion comprising some of said interfit portions and  
2 wherein said upper track side walls are formed with corresponding notches at the bottom thereof  
3 into which said tabs are received when said upper track is installed over said bracket and gear  
4 case.

5